

ELECTRICAL & COMPUTER ENGINEERING**OREGON STATE UNIVERSITY****College of Engineering****WALLACE, Alan K.**

Professor

BIRTH DATE

November 29, 1942

DEGREES

B.Eng. (Hons.), Electrical Engineering, University of Sheffield, U.K., 1963

Ph.D., Electrical Engineering, University of Sheffield, U.K., 1966

ACADEMIC POSITIONS

Lecturer, University of Nottingham, 1967-1974

Associate Professor, Department of Electrical & Computer Engineering, Oregon State University, 1984-1991

Professor, Department of Electrical & Computer Engineering, Oregon State University, 1991-present

Visiting NSF Research Fellow, University of Cambridge, UK, 1991-1992

Head, Department of Electrical & Computer Engineering, Oregon State University, 1997-1999

Visiting EPSRC Fellow, University of Manchester (UMIST), UK, 2002

NON-ACADEMIC POSITIONS

Scientific Officer, Imperial Chemical Industries Ltd., U.K., 1966-1967

Supervisor, Electrical Design, Spar Aerospace (Toronto) Ltd., 1974-1977

Propulsion Design Specialist, Canadair Services Ltd., 1977-1980

Manager, Electrical Design, MetroCanada Ltd., 1980-1984

FIELDS OF SPECIALIZATION

Electrical machine analysis and design

Power electronic adjustable speed drives and variable-speed generators

Electrical vehicle propulsion systems (linear machines)

Electrical machine measurements and testing

PROFESSIONAL ACTIVITIES**Registration**

Ontario, Canada (P.Eng.)

United Kingdom (C.Eng.)

Professional Societies

IEE (London), Member, 1970

IEEE (New York), Member, 1975; Senior Member, 1984; Fellow, 2000

Professional RecognitionAssociate Editor, *IEEE Transactions on Power Electronics*, 1988-1991

Austin-Paul Award, OSU College of Engineering, Fall 1988, "For excelling in student-teacher relations that lead, encourage and stimulate students to pursue innovative engineering ideas"

First Prize Paper Award, IEEE Industrial Applications Society Machines Committee, October 1990

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Compton Premium (Prize Paper), IEE (London) Power Division, August 1998
First Prize Paper Award, IEEE Pulp and Paper Industry Conference, June 2001

Committees, Commissions and Boards

Electric Power Research Institute

Technical Consultant: "Next Generation Wind Turbine" Program, 1993-1994

Member of National Advanced Motors and Drives Steering Committee, 1992-present

U.S. Department of Energy

Technical Consultant: Motor Challenge Program Videoconferences 1995 and 1998

National Science Foundation

Power Systems Research Proposal Review Committee, 1993-present

Center Site Visitor (Power Electronics), 1996-present

Electric Apparatus Service Association/American National Standards Institute

Reviewer of Standard for Repair of Rotating Electrical Apparatus, 1999

Institute of Electrical and Electronic Engineers (New York)

Member and Transaction Reviewer, Industrial Drives Committee, Industrial Applications Society, 1987-present

Member, Machines Committee, Industrial Applications Society, 1989-present

Member, Education Committee, Industrial Applications Society, 1989

Coordinator, Drive Sessions, Power Electronics Specialist Conference, Power Electronics Society, 1994-1995

Book Review: *Inspection of Large Synchronous Machines*, 1996

Industrial Drives Committee: Liaison Representative with Standards Committee on Testing of Induction Motor Drives, 1997-present

Franklin Institute, Washington, DC

Proposal reviewer, 1999-present

Oregon State University

Member, Technology Transfer Committee, 1987-present

Member, College of Engineering, Research Advisory Committee, 1994-present

Member, College of Engineering, Development Committee, 1996-1998

Director, EPRI Center in OSU for Motor and Drive Research, 1994-present

PUBLICATIONS

Book Chapter

"Industry Systems - Large Drives," (A.K. Wallace, R. Spée), in *The Electrical Engineering Handbook*, R. Dorf, Editor, CRC Press, February 1993, pp. 2237-2246.

Technical Journals

O.I. Butler and A.K. Wallace, "A Generalized Theory of Induction Motors with Symmetrical Primary Windings," *Proceedings IEE (London)*, pp. 685-694, 1968.

A.K. Wallace and O.I. Butler, "Equivalent Circuits for Non-Quadrature, Tap-Quadrature and Shaded Pole Single Phase Induction Motors," *Proceedings IEE (London)*, pp. 1767-1771, 1968.

O.I. Butler and A.K. Wallace, "Effect of Parameter Changes on the Performance of Shaded Pole Motors," *Proceedings IEE (London)*, pp. 732-736, 1969.

A.K. Wallace and O.I. Butler, "Discussions on Generalized Theory of Induction Motors," *Proceedings IEE (London)*, pp. 1051-1052, 2037-2038, 1969.

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- A.K. Wallace, "Novel Method for the Reversal of Single Phase Squirrel Cage Motors," *Proceedings IEE* (London), pp. 550-554, 1971.
- A.K. Wallace, "Discussion on Skew-Effect Parameters," *Proceedings IEE* (London), pp. 894-895, 1972.
- A.K. Wallace and A. Wright, "Novel Simulation of Cage Windings Based on a Mesh Circuit Model," *Transactions IEEE, Power Application and Systems*, pp. 377-382, 1974.
- A.K. Wallace, E.S. Ward, and A. Wright, "Sources of Harmonic Currents in Slip Ring Induction Motors," *Proceedings IEE* (London), pp. 1495-1500, 1975.
- D.E. Cattermole, R.M. Davis, and A.K. Wallace, "Design Optimization of a Split-Phase Fan Motor with Triac Speed Controls," *Transactions IEEE, Power Apparatus and Systems*, pp. 778-785, 1975.
- A. Wright, A.K. Wallace, and S. Carneiro, "A Mathematical Model of Three-Phase Induction Machines," *Electrical Machines and Electromechanics*, pp. 217-228, 1977.
- A.K. Wallace, J.H. Parker, and G.E. Dawson, "Slip Control for LIM Propelled Urban Transit Vehicles," *IEEE Transactions on Magnetics*, pp. 710-713, 1980.
- G.E. Dawson, A.R. Eastham, and A.K. Wallace, "Voltage Controlled 60 Hz Linear Induction Motor Drives," *Electrical Machines and Power Systems*, 1983.
- A.K. Wallace, "The Function of the Reaction Rail in the Development of a LIM Propulsion System for Urban Transit," *Transactions IEEE, Industrial Applications Society*, pp. 942-947, 1984.
- R. Spée and A.K. Wallace, "Performance Characteristics of Brushless DC Drives," *IEEE Transactions on Industrial Applications*, pp. 568-573, 1988.
- G-h. Choe, A.K. Wallace, and M-h. Park, "An Improved PWM Technique for AC Choppers," *IEEE Transactions Power Electronics*, pp. 496-505, 1989.
- A.K. Wallace and R. Spée, "The Effects of Motor Parameters on the Performance of Brushless DC Drives," *IEEE Transactions Power Electronics*, pp. 2-6, 1990.
- A.K. Wallace, R. Spée, and L. Martin, "Current Harmonics and Acoustic Noise in AC Adjustable Speed Drives," *IEEE Transactions Industrial Applications*, pp. 267-273, 1990.
- R. Spée and A.K. Wallace, "Remedial Strategies for Brushless DC Drive Failures," *IEEE, Trans. Industrial Applications*, pp. 259-266, 1990.
- A.K. Wallace, K. Levien, and U. Ranawake, "Experimental Feasibility Study of a Magnetic Elevator for Particles," *Powder Technology, Vol. 64, Special Issue on Magnetized Fluidized Beds*, No. 1, pp. 125-132, 1991.
- R. Li, A.K. Wallace and R. Spée, "Dynamic Simulation of Brushless Doubly-Fed Machines," *IEEE Power Engineering Society Transactions*, pp. 445-452, 1991.
- R. Li, A.K. Wallace, R. Spée, and Y. Wang, "Two Axis Model Development of Cage-Rotor, Brushless Doubly-Fed Machines," *IEEE Power Engineering Society Transactions*, pp. 453-460, 1991.
- R. Spée and A.K. Wallace, "Comparative Evaluation of Power-Factor Improvement Techniques for Squirrel-Cage Induction Motors," *IEEE Transactions, Industrial Applications*, September 1991. (IEEE IAS Annual Meeting, October 1990. Awarded First Prize by Machines Committee.)
- R. Li, A.K. Wallace, and R. Spée, "Determination of Converter Control Algorithms for Stable Brushless Doubly-Fed Drives Using Floquet and Lyapunov Techniques," *IEEE Transactions on Power Electronics*, March/April 1993.
- C.S. Brune, R. Spée, and A.K. Wallace, "Experimental Evaluation of a Variable-Speed Doubly-Fed Wind-Power Generation System," *IEEE Transactions Industrial Applications*, Vol. 30, No. 3, pp. 648-655, May/June 1994.
- R. Li, A.K. Wallace, R. Spée, and G.C. Alexander, "Synchronous Drive Performance of Brushless Doubly-Fed Motors," *IEEE Transactions Industrial Applications*, Vol. 30, No. 4, pp. 963-970, July/August 1994.

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- M.S. Boger, A. Wallace, R. Spée, and R. Li, "General Pole Number Model of the Brushless Doubly-Fed Machine," *IEEE Transactions Industrial Applications*, Vol. 31, No. 5, September/October 1995.
- P. Rochelle, A.K. Wallace, and R. Spée, "Rotor Modelling and Development for Brushless Doubly-Fed Machines," *Journal on Electric Machines and Power Systems*, pp. 703-716, November 1995.
- M.S. Boger, A. Wallace, and R. Spée, "Investigation of Appropriate Pole Number Combinations for Brushless Doubly-Fed Machines Applied to Pump Drives," *IEEE Transactions Industrial Applications*, Vol. 32, No. 1, pp. 189-194, January/February 1996.
- S.W. Williamson, A.C. Ferreira, and A.K. Wallace, "Generalized Theory of the Brushless Doubly-Fed Machine. Part 1: Analysis," *Proceedings IEE (London) - Electrical Power Applications*, Vol. 144, No. 2, pp. 111-122, March 1997.
- A. von Jouanne, H. Zhang, and A.K. Wallace, "An Evaluation of Mitigation Techniques for Bearing Currents, EMI and Overvoltages in ASD Applications," *IEEE Transactions Industry Applications*, Vol. 34, No. 5, pp. 1113-1122, September/October 1998.
- H. Zhang, A. von Jouanne, and A. Wallace, "Multi-Level PWM Inverter Modulation Schemes to Eliminate Common-Mode Voltages," *IEEE Transactions on Industry Applications*, pp. 1645-1653, November/December 2000.
- F. Al-Ghubari, A. von Jouanne, and A. Wallace, "The Effects of PWM Inverters on the Winding Voltage Distribution in Induction Motors," *Journal of Electric Machines & Power Systems*, Vol. 29, No. 5, 2000.
- A. Wallace, A. von Jouanne, E. Wiedenbrug, A. Unsall, and P. Andrews, "The Effects of Non-Ideal Voltage and Winding Conditions on the Performance of Induction Motors," *Journal of Electric Power Components and Systems*, Vol. 29, No. 6, May 2001.
- A. Wallace and A. von Jouanne, "Adjustable Speed Drives for Industry: Are PM Eddy-Current Couplings an Alternative to VFDs?" *IEEE Industry Applications Magazine*, August/September 2001.
- A. Wallace, A. von Jouanne, R. Jeffries, E. Matheson, and X. Zhou, "Performance Testing of Power Electronic and Permanent Magnet Adjustable-Speed Drives," *Journal of Electric Power Components and Systems*, December 2001.
- A.K. Wallace, J.A. Rooks, and J.R. Holmquist, "Comparison Testing of IEEE Standard 841 Motors," *IEEE Transactions on Industry Applications*, pp. 763-768, May/June 2002.
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- M. Al-Hamrani, A. Wallace, A. von Jouanne, "Power Factor Correction In Industrial Facilities Using Adaptive Excitation Control of Synchronous Machines", *IEEE Industry Applications Magazine*, 2003.
- A. von Jouanne, E. Matheson, A. Wallace, "A Power Quality Test Platform Based on a 120kVA Programmable Source, Including Experimental Demonstrations", *Journal of Electric Power Components and Systems*, Volume 31, Issue 6, June 2003, pp. 535-551.
- A. Nagorny, A. Wallace, A. von Jouanne, Pending: "Stray Load Loss Efficiency Connections", *IEEE Industry Applications Magazine*, May/June 2004, pp. 62-69.
- A. Wallace, A. von Jouanne, E. Agamloh, K. Anderson, J. Rooks, "Assessment of Non-Intrusive Motor Efficiency Estimators", *IEEE Trans. On Industry Applications*, Jan/Feb 2005, pp127-133
- A. von Jouanne, A. Wallace, I. Husain, A. Yokochi, Innovative Hydrogen/Fuel Cell Electric Vehicle Infrastructure Based on Renewable Energy Sources, *IEEE Industry Applications Magazine*, March/April 2005.

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A. Ramme, A von Jouanne, A. Wallace, L. Petersen, T. Ly, "Partial Discharge in Medium Voltage PWM propulsion Coils for Electric Ships", *Journal of Electric Power Components and Systems*, vol 33, no. 7, July 2005

Under Review:

S. Dai, A. von Jouanne, A. Wallace, G. Temes, "Delta-Sigma Modulation Applications in Neutral-Point Clamped Inverters", *IEEE Trans Industry Applications*.

J. Han, A. von Jouanne, A. Wallace, G. Temes, "A New Approach to Reducing Output Ripple in Switched-Capacitor-Based Step-Down DC/DC Converters", *IEEE Trans Industry Applications*

K. Rhinefrank, E. Agamloh, A. von Jouanne, A. Wallace, J. Prudell, K. Kimble, J. Aills, E. Schimdt, P. Chan, B. Sweeny, A. Schacher, "Novel Ocean Energy Permanent Magnet Linear Generator Buoy", *Journal of Renewable Energy*

Conference Proceedings

A. Wright and A.K. Wallace, "Effects of Mutual Inductance Harmonics in Balanced Three Phase Induction Motors," *Fifth Universities Power Engineering Conference* (Swansea, U.K.), January 1970

A. Wright and A.K. Wallace, "Current Harmonics in Balanced-Phase, Wound-Rotor Induction Motors," *Seventh Universities Power Engineering Conference* (London, U.K.), January 1972.

A. Wright and A.K. Wallace, "The Behavior of Induction Machines Under Abnormal Operating Conditions," *International Conference on Electrical Machines (ICEM)* (London, U.K.), June 1974.

A.K. Wallace, J.H. Parker, and G.E. Dawson, "LIM Braking Techniques for Transit Vehicles," *IEEE/ASME Joint Railroad Conference* (Montreal, Canada), April 1980.

A.K. Wallace, "The Effects of Operating Condition Variation on the Performance of a LIM Propulsion System," *IEEE Industrial Applications Society Annual Meeting* (Cincinnati, OH), September 1980.

H. Ledsham and A.K. Wallace, "Propulsion Power for Intermediate Capacity Transit Systems," *American Public Transportation Association Conference* (Philadelphia, PA), September 1981.

A.K. Wallace, A. Rumsey, and A.H. Jeffries, "Propulsion and Control Considerations for an Intermediate Capacity Transit System," *IEEE Industrial Applications Society Annual Meeting* (Philadelphia, PA), September 1981.

A.K. Wallace, "Practical Aspects of the Application of Linear Induction Motors to Urban Transit Vehicles," *Transportation Challenges for the Eighties Conference-Canadian Institute of Guided Ground Transport* (Kingston, Canada), February 1982.

G.E. Dawson, A.K. Wallace, A.R. Eastham, and A.M.A. Kamar, "Design Study of LIM with a Solid Steel Reaction Rail for Urban Transit," *International Conference on Electrical Machines-ICEM82* (Budapest, Hungary), October 1982.

A.K. Wallace and H. Ledsham, "LIM Propulsion in the Detroit Downtown ICTS," *Second International Symposium on Advanced Propulsion and Control in Urban Transit-Urban Mass Transit Administration*, U.S. Dept. of Transportation (Baltimore, MD), March 1984.

A.K. Wallace, U. Ranawake, X. Degan, and O. Levenspiel, "The Magnetic Elevator for Solids: A Tubular Linear Reluctance Motor," *IEEE Vehicular Technology Society Conference on Magnetic Levitation and Linear Drives* (Las Vegas, NV), May 1987.

R. Spée, A.K. Wallace, and J. Davis, "Modelling of Brushless DC Drive Systems with Pulse-Width Modulated Excitation," *Sixth International Conference on Mathematical Modelling* (St. Louis, MO), July 1987.

A.K. Wallace and R. Spée, "Performance Evaluation of AC Adjustable Speed Drives," *IEEE Industrial Applications Society Annual Meeting* (Atlanta, GA), October 1987.

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- A.K. Wallace and R. Spée, "The Simulation of Brushless DC Drive Failures," *IEEE Power Electronics Specialist Conference* (Kyoto, Japan), April 1988.
- A.K. Wallace and G-h. Choe, "Control Technique of Active Power Filter for Harmonic Elimination and Reactive Power Control," *IEEE Industrial Applications Society Annual Meeting* (Pittsburgh, PA), October 1988.
- A.K. Wallace, R. Spée, and H.K. Lauw, "Dynamic Modeling of Brushless Doubly-Fed Machines," *IEEE Industrial Applications Society Annual Meeting* (San Diego, CA), October 1989.
- R. Spée, A.K. Wallace, and H.K. Lauw, "Performance Simulation of Brushless Doubly-Fed Adjustable Speed Drives," *IEEE Industrial Applications Society Annual Meeting* (San Diego, CA), October 1989.
- A.K. Wallace, R. Spée, and P. Rochelle, "Rotor Modelling & Development for Brushless Doubly-Fed Machines," *International Conference on Electrical Machines (ICEM'90)* (Boston), August 1990.
- A.K. Wallace, R. Spée, and H.K. Lauw, "The Potential Brushless Doubly-Fed Machines for Adjustable Speed Drives," *IEEE IAS Pulp and Paper Industry Annual Meeting* (Seattle), June 1990.
- P. Rochelle, A.K. Wallace, and R. Spée, "The Effect of Stator Winding Configuration on the Performance of Brushless Doubly-Fed Machines in Adjustable-Speed Drives," *IEEE IAS Annual Meeting*, October 1990.
- A.K. Wallace and R. Spée, "The Effects of Sources of Harmonic Pollution on Induction Motor Power Factor Correction Schemes," *Power Quality '90 Conference*, October 1990, Philadelphia.
- A.K. Wallace and R. Spée, "Research, Development and Applications Studies for Brushless Doubly-Fed Machines," *Seminario Internacional de Motores Elétricos e Acionamentos Reguláveis*, Escola Politécnica do Universidade de São Paulo, Brazil (Plenary Session Presentation), 7-9 May 1991.
- A.K. Wallace and R. Spée, "Instrumentation for a Contemporary Energy Conversion Laboratory," *Proceedings 1991 American Society of Engineering Education Annual Conference*, New Orleans, 10-14 June 1991.
- R. Li, A.K. Wallace, and R. Spée, "Determination of Converter Control Algorithms for Stable Brushless Doubly-Fed Drives Using Floquet and Lyapunov Techniques," *IEEE Power Electronics Specialist Conference*, Boston, MA, 24-28 June 1991.
- V. Javadekar, D.K. Ravi, R. Spée, and A.K. Wallace, "A Variable-Speed Brushless Doubly-Fed Automotive Alternator," *4th European Conference on Power Electronics and Applications*, Florence, Italy, 3-6 September 1991.
- G.C. Alexander, A. Ramchandran, R. Spée, and A.K. Wallace, "Parameter Identification for Brushless Doubly-Fed Synchronous Motors," *International Conference on Evolutions and Modern Aspects of Synchronous Machines*, Institute für Elektrische Maschinen, Zurich, Switzerland, 27-29 August 1991.
- A.K. Wallace, R. Spée, and G.C. Alexander, "The Brushless Doubly-Fed Motor as a Limited-Speed-Range Pump Drive," *Proc. IEEE Symposium on Industrial Electronics*, Budapest, May 1993, pp. 33-37.
- A.K. Wallace, R. Spée, and G.C. Alexander, "Adjustable Speed Drive and Variable Speed Generation Systems with Reduced Power Converter Requirements," *Proc. IEEE Symposium on Industrial Electronics*, Budapest, May 1993, pp. 503-508.
- A.K. Wallace, "The Rotor Design Problem of the Brushless Doubly-Fed Machine," *12th Internationale Fachtagung Industrielle Automatisierung - Automatisierte Antriebe*, Technischen Universität Chemnitz - Zwickau, 1993, pp. 247-254.
- A.K. Wallace, R. Spée, and G.C. Alexander, "The Brushless Doubly-Fed Machine: Its Advantages, Applications and Design Methods," *Proc. IEE 6th International Conference on Electric Machines and Drives*, Oxford, 1993, pp. 511-517.

WALLACE, Alan K.
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- A.K. Wallace, R. Spée, and G.C. Alexander, "The Commercial and Educational Benefits of Variable Speed Drive Testing Facilities," *Proc. IEE 5th European Conference on Power Electronics and Applications*, Brighton, vol. 5, 1993, pp. 253-258.
- F. Saifkhani and A.K. Wallace, "A Linear Brushless Doubly-Fed Machine for Traction Applications," *Proc. IEE 5th European Conference on Power Electronics and Applications*, Brighton, vol. 5, 1993, pp. 344-349.
- A.K. Wallace, "Brushless Doubly-Fed Motor Technology and Its Applications," *Proc. EPRI Pecon IV*, San Diego, October 1993, pp. 11-2.2 to 11-2.19.
- C. Brune, R. Spée, and A.K. Wallace, "Experimental Evaluation of a Variable-Speed Doubly-Fed Windpower Generation System," *IEEE Industrial Applications Society Annual Meeting*, Toronto, October 1993, pp. 480-487.
- D. Zhou, R. Spée, and A.K. Wallace, "Model Reference Adaptive Speed Control for Doubly-Fed Machines," *IEEE International Conference on Industrial Electronics, Control and Instrumentation*, Hawaii, November 1993, pp. 1175-1180.
- D. Zhou, R. Spée, and A.K. Wallace, "Laboratory Control Implementations for Doubly-Fed Machines," *IEEE International Conference on Industrial Electronics, Control and Instrumentation*, Hawaii, November 1993, pp. 1181-1186.
- R. Spée, A.K. Wallace, and S. Bhomik, "Comparison Testing of Equivalent Induction Motor and Brushless Doubly-Fed Motor Adjustable Speed Drives," *International Conference on Electrical Machines*, Paris, September 1994, pp. 85-90.
- A. Alajmi, A.K. Wallace, and R. Spée, "A Design Procedure for the Brushless Doubly-Fed Machine Adjustable Speed Drive," *International Conference on Electrical Machines*, Paris, September 1994, pp. 199-203.
- M.S. Boger, A.K. Wallace, R. Spée, and R. Li, "General Pole Number Model of the Brushless Doubly-Fed Machine," *IEEE Industrial Applications Society, 29th Annual Meeting*, Denver, October 1994, pp. 67-73.
- M.S. Boger, A.K. Wallace, and R. Spée, "Investigation of Appropriate Pole Number Combinations for Brushless Doubly-Fed Machines Applied to Pump Drives," *IEEE Industrial Applications Society, 29th Annual Meeting*, Denver, October 1994, pp. 157-163.
- B.V. Gorti, D. Zhou, R. Spée, G.C. Alexander, and A.K. Wallace, "Development of a Brushless Doubly-Fed Machine for a Limited-Speed Pump Drive in a Waste-Water Treatment Plant," *IEEE Industrial Applications Society, 29th Annual Meeting*, Denver, October 1994, pp. 523-529.
- B.V. Gorti, G.C. Alexander, R. Spée, and A.K. Wallace, "A Microcontroller Based Efficiency Optimization for a Brushless Doubly-Fed Machine Pump Drive," *IEEE-IAS Conference on Industrial Application and Control*, India, January 1995.
- B.V. Gorti, G.C. Alexander, R. Spée, and A.K. Wallace, "Characteristics of a Brushless Doubly-Fed Machine in Current-Fed Mode of Operation," *IEEE-IAS Conference on Industrial Application and Control*, India, January 1995.
- T. Lewis, D. Heberle, and A. Wallace, "Development of a Fully Regenerative 300 HP Motor and Drive Test Facility," *IEEE/KTH, Stockholm Power Technology Conference*, Sweden, June 1995.
- A. Wallace, M.S. Boger, and E. Wiedenbrüg, "Medium- and High-Voltage, Low-Speed Drives Using Low-Voltage IGBT Converters," *IEEE International Symposium on Industrial Electronics*, Athens, July 1995.
- A. Wallace, C. Wohlgenuth, and C. Lamb, "A High Efficiency, Alignment and Vibration Tolerant, Coupler Using High Energy-Product Permanent Magnets," *IEE Electric Machines and Drives Conference*, Durham, September 1995.
- M. Boger and A. Wallace, "Performance Capability Analysis of the Brushless Doubly-Fed Machine as a Wind Generator," *IEE Electric Machines and Drives Conference*, Durham, September 1995.

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Professor

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- J.M. Peter and A.K. Wallace, "A Development Strategy for Education in Power Electronics," *IEEE/IEEE/EPEDA 6th European Conference on Power Electronics*, Seville, September 1995.
- E. Wiedenbrüg, M.S. Boger, A.K. Wallace, and D. Patterson, "Electromagnetic Mechanism of Synchronous Operation of the Brushless Doubly-Fed Machine," *IEEE Industry Applications Society 30th Annual Meeting*, Orlando, 1995.
- A.K. Wallace and T.E. Rollman, "High Efficiency Testing Laboratory for Motors, Drives, and Generators," *Sixth International Conference on Power Electronics and Variable Speed Drives*, Nottingham, England, IEE Publication No. 429, September 1996.
- E. Wiedenbrüg and A.K. Wallace, "Design Simulation for the Brushless Doubly-Fed Machine as a Very Low Speed Drive," *Electrimacs '96*, St. Nazaire, France, September 1996.
- D. Zhou, R. Spée, G.C. Alexander, and A.K. Wallace, "A Simplified Method for Dynamic Control of Brushless Doubly-Fed Machines," *IEEE IECON 96*, Taipei, Taiwan, 1996, pp. 946-951.
- A. Kemp, M. Boger, E. Wiedenbrüg, and A. Wallace, "Investigation of Rotor-Current Distributions in Brushless Doubly-Fed Machines," *IEEE Industrial Applications Society 31st Annual Meeting*, San Diego, October 1996, pp. 638-643.
- B.V. Gorti, G.C. Alexander, R. Spée, and A. Wallace, "A Fuzzy Controller for Terminal Quantity Regulation in a Doubly-Fed, Stand-Alone Generator System," *IEEE Industrial Applications Society 31st Annual Meeting*, San Diego, October 1996, pp. 1701-1709.
- A. Wallace, A. von Jouanne, E. Wiedenbrüg, J. Douglass, C. Wohlgenuth, and G. Wainwright, "A Laboratory Assessment of In-Service Motor Efficiency Testing Methods," *Record IEEE International Conference on Electric Machines and Drives*, May 1997, pp. WC1-7.1 to 7.3.
- A. Wallace, A. von Jouanne, and T. Rollman, "A Fully Regenerative, High Power Testing Facility for Motors, Drives, and Generators," *Record IEEE International Conference on Electric Machines and Drives*, May 1997, pp. MB2-13.1 to 13.3.
- E. Wiedenbrüg, A. Wallace, and A. von Jouanne, "Using the New EPRI/BPA Testing Facility to Evaluate the Latest Technologies in Motors and Drives," *IEEE Industry Applications Society, Pulp and Paper Industry Conference Record*, June 1997, pp. 51-56.
- A.K. Wallace, A.R. von Jouanne, E.J. Wiedenbrüg, P.S. Andrews, C.W. Wohlgenuth, J. Douglass, and G. Wainwright, "The Measured Effects of Under-Voltage on the Efficiency and Power Factor of Induction Motors over Wide Ranges of Load," *IEE (London) Proceedings of 8th International Conference on Electric Motors and Drives*, September 1997, pp. 258-262.
- A. Wallace, A. von Jouanne, P. Andrews, C. Wohlgenuth, and G. Wainwright, "The Effects of Voltage and Winding Abnormalities on the Measured Performance of Induction Motors," *Conference Record IEEE Industry Applications Society Annual Meeting*, October 1997, pp. 196-200.
- A. von Jouanne, H. Zhang, and A. Wallace, "An Evaluation of Mitigation Techniques for Bearing Currents, EMI and Over-Voltages in ASD Applications," *Conference Record IEEE Industry Applications Society Annual Meeting*, October 1997, pp. 478-485.
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- A. Wallace and J. Oliver, "Variable-Speed Generation Controlled by Passive Elements," *International Conference on Electrical Machines*, Istanbul, Turkey, September 1998, pp. 1554-1559.
- H. Zhang, A. von Jouanne, and A. Wallace, "Multilevel Inverter Modulation Schemes to Eliminate Common-Mode Voltages," *Conference Record IEEE Industry Applications Society Annual Meeting*, October 1998, pp. 752-758.
- E. Wiedenbrüg and A. Wallace, "Induction Machine Speed Extraction by Analysis of Stator Current Signatures," *Conference Record Electrical Manufacturing and Coil Winding Association Conference*, October 1998, CD #1, 00596.TDF.

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- E. Matheson, A. von Jouanne, and A. Wallace, "Evaluation of Inverter and Cable Losses in Adjustable Speed Drive Applications with Long Motor Leads," *IEEE International Electric Machines and Drives Conference*, Seattle, WA, May 1999, pp. 159-161.
- I. Boldea, L. Chis, and A. Wallace, "Load Testing of Induction Machines without Torque Measurements," *IEEE International Electric Machines and Drives Conference*, Seattle, WA, May 1999, pp. 162-164.
- A. Wallace and E. Wiedenbrüg, "Motor Efficiency Determination: From Testing Laboratory to Plant Installation," *IEEE Pulp and Paper Industry Technical Conference*, Seattle, WA, June 1999, pp. 190-195.
- T. Bathon, A. Wallace, and I. Boldea, "Dynamic Operation of a Passively Controlled Variable-Speed Generation System," *IEE Ninth International Conference on Electrical Machines and Drives*, Canterbury (UK), September 1999, pp. 54-57.
- E. Wiedenbrüg and A. Wallace, "In-Service Testing of Three Phase Induction Machines," *IEEE International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives*, Gijon (Spain), September 1999, pp. 219-223.
- A.K. Wallace, A. von Jouanne, R. Jeffries, E. Matheson, and X. Zhou, "Comparison Testing of an Adjustable-Speed Permanent Magnet Coupling," *IEEE Pulp and Paper Industry Technical Conference*, Atlanta, GA, June 2000.
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